



# Week in Review: 02/17/03 –02/23/03

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## **Ron Moore – FNAL**

- Store Summary
- Failed Tev dipole disassembly
- Schedule for Week

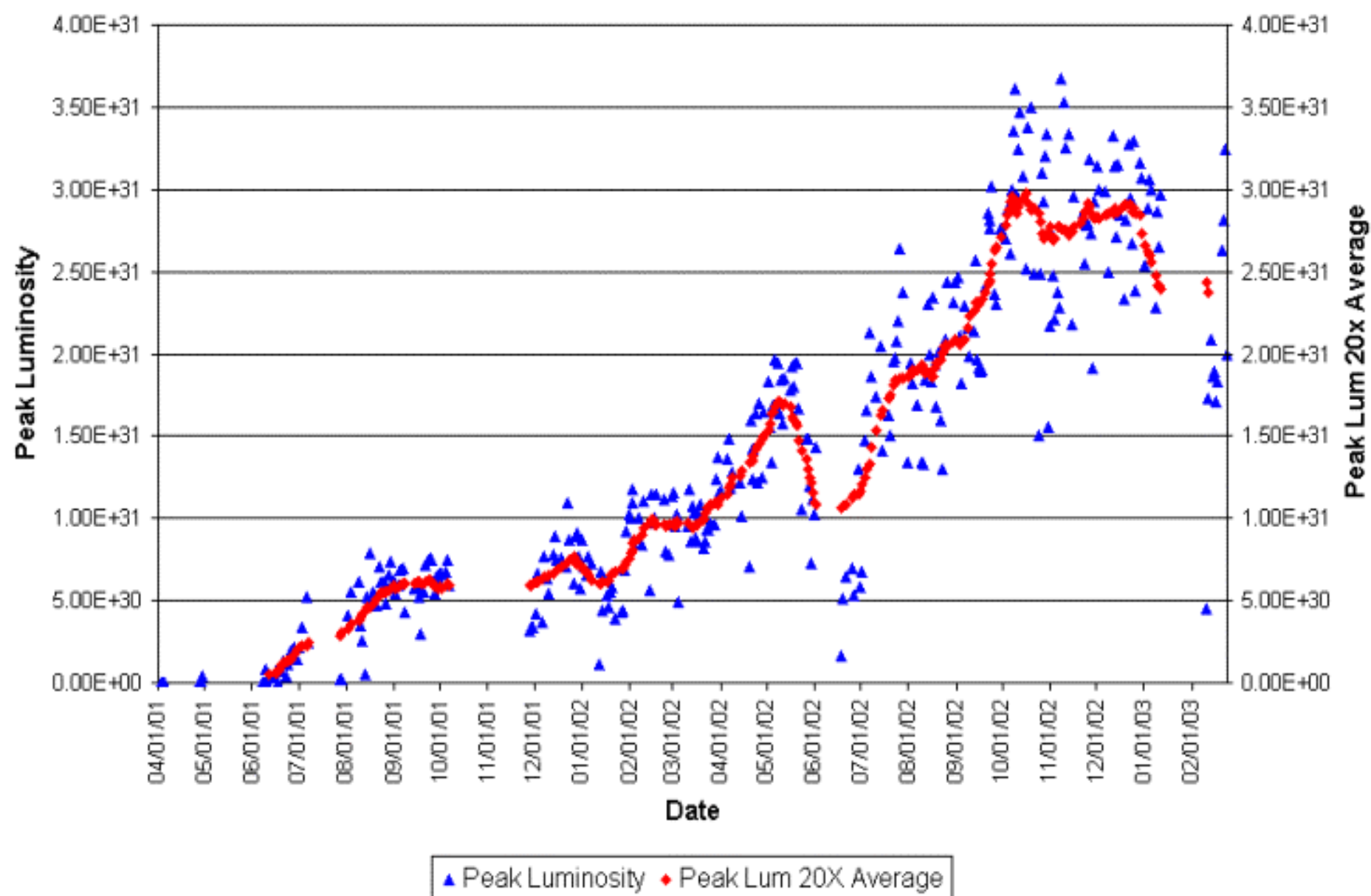


# Store Summary

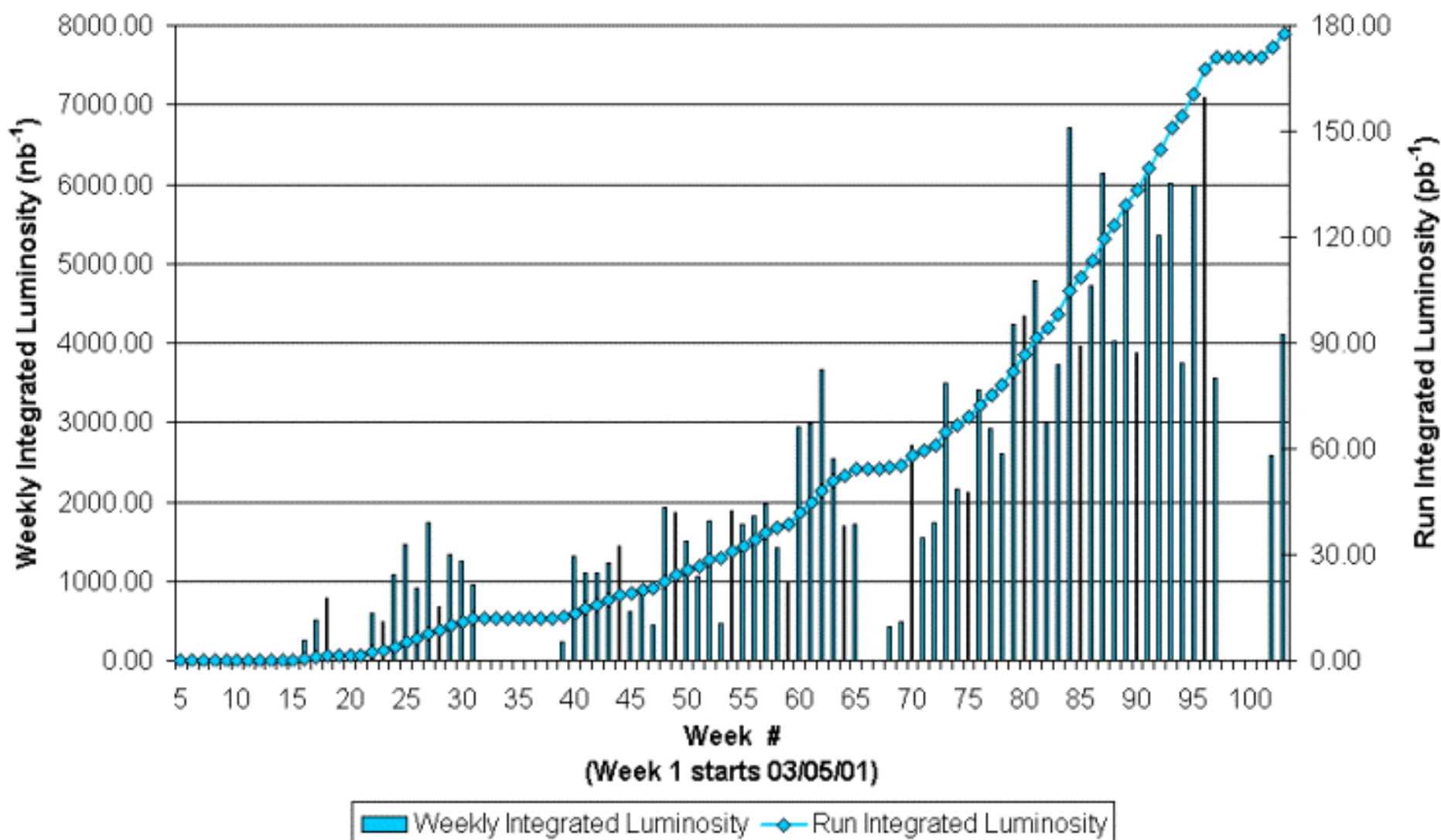
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Store	Initial Lumi	Deliv'd Lumi	Termination	Comments
2236	19.2	$\approx 370$	Abort	Com Ed glitch tripped Tev RF
2256	30.1	148	Quench	D0 low beta quad trim regulator failure
2260	24.2	863	Intentional	Shot from 100 mA; proton length blow-up TeV transverse dampers on @ 150 GeV
2262	28.4	1145	Intentional	ARF4 caused wide disparity in pbar intensities
2264	30.8	582	Quench	F3 CC tripped off (again, as in store 2221)
2270	20.0	785	Quench	Shot from 100 mA; ARF4 woes continue E1 CC tripped off (as in 2264)
2271	23.2		ongoing	Shot from 143 mA; ARF4 really misbehaved

## Collider Run IIA Peak Luminosity



## Collider Run IIA Integrated Luminosity





# Operational Issues

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- Continued great running of proton source
  - Routinely provide 4.8-4.9 E12 protons/pulse on pbar target
  - Saw 5.3 E12 protons/pulse from Booster, but MI lost at transition
  - Sustained 3 E16 protons / hour to MiniBoone while stacking
- Pbar
  - Have had several 140 mA stacks
  - Partial retreat on impedance increase last week
  - Pbar coalescing 85-90% when ARF4 OK
  - Try longitudinal damper to prevent beam shaking when unstacking
- Tev luminosity improved
  - DC beam losses on ramp @ B26, B38 moved with orbit bumps
  - Transverse dampers operational again
  - Back to pre-shutdown proton intensities
- Cryo cold-compressor trips
  - 3 stores lost prematurely in past 2 weeks
  - Electronic noise from heater affecting relays in controller? Replace relays

# GxSB: Fast Time Plot

FTP V5.41

Console 2 SB

Fri 21-FEB-03 15:03 Pri=0

## MI proton intensity during stacking cycles

6  
8

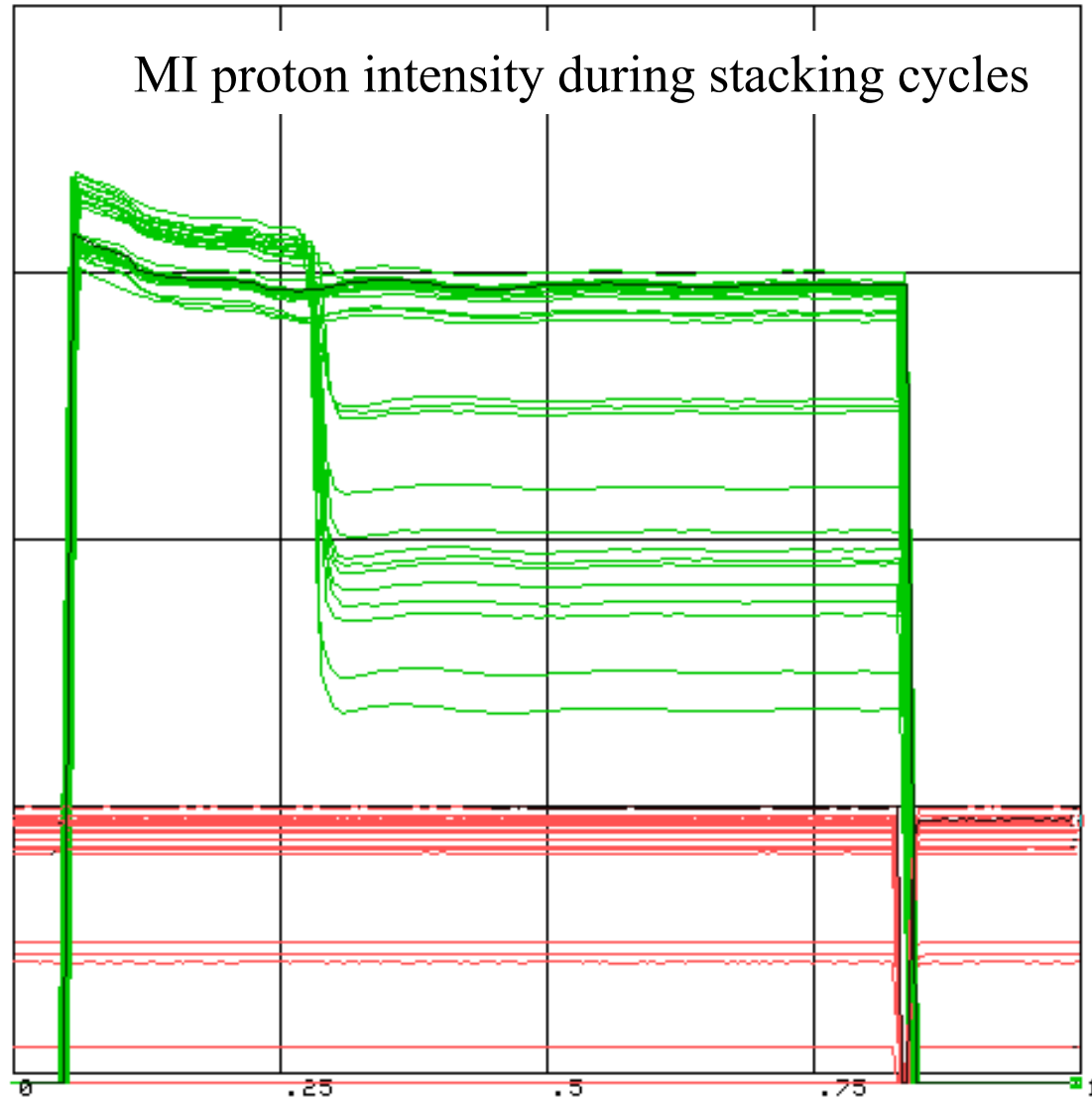
5  
7

4  
6

(200 Hz )  
(200 Hz )

3  
5

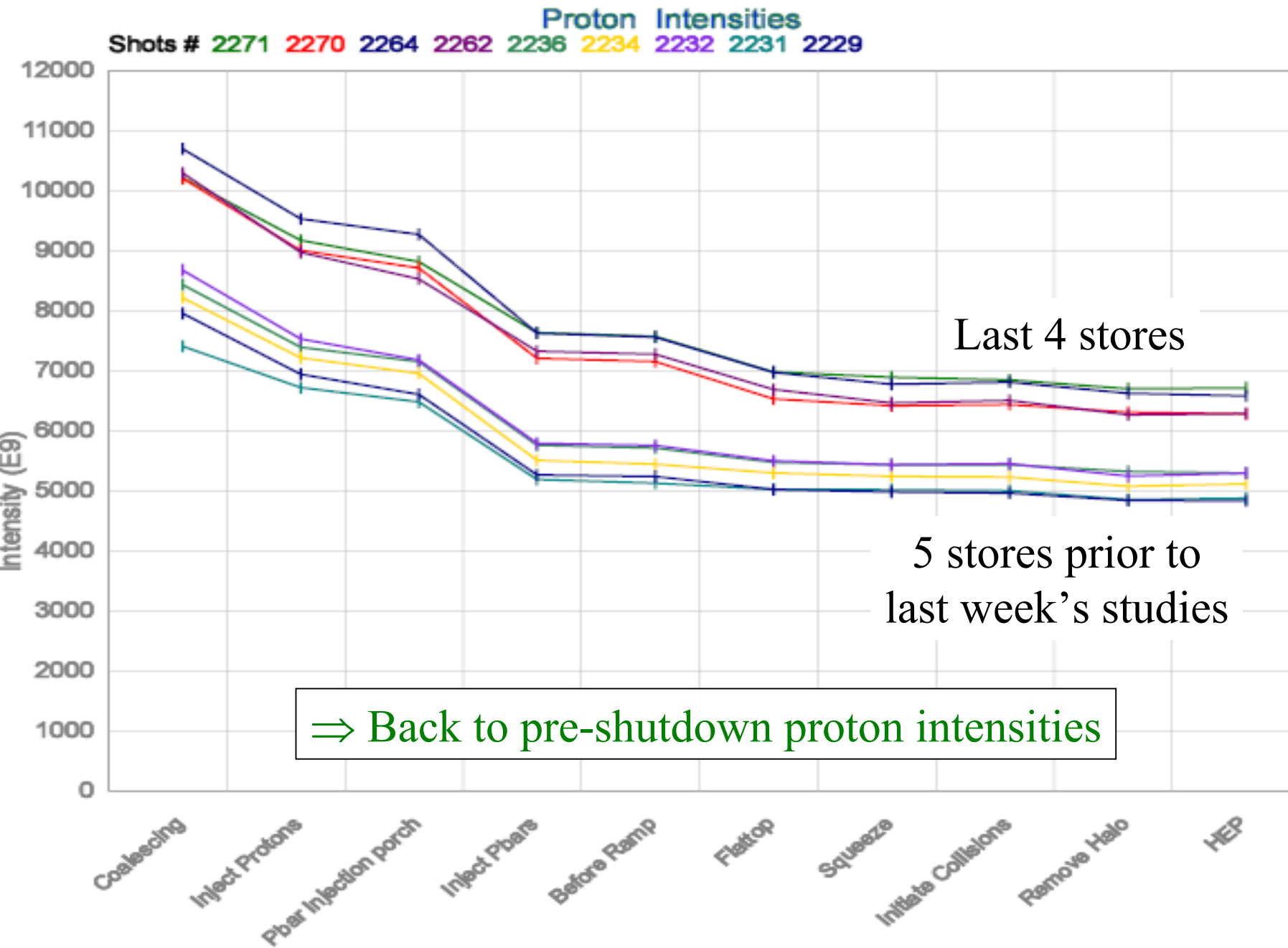
2  
4



Seconds MI\_CYCLE 29 2B

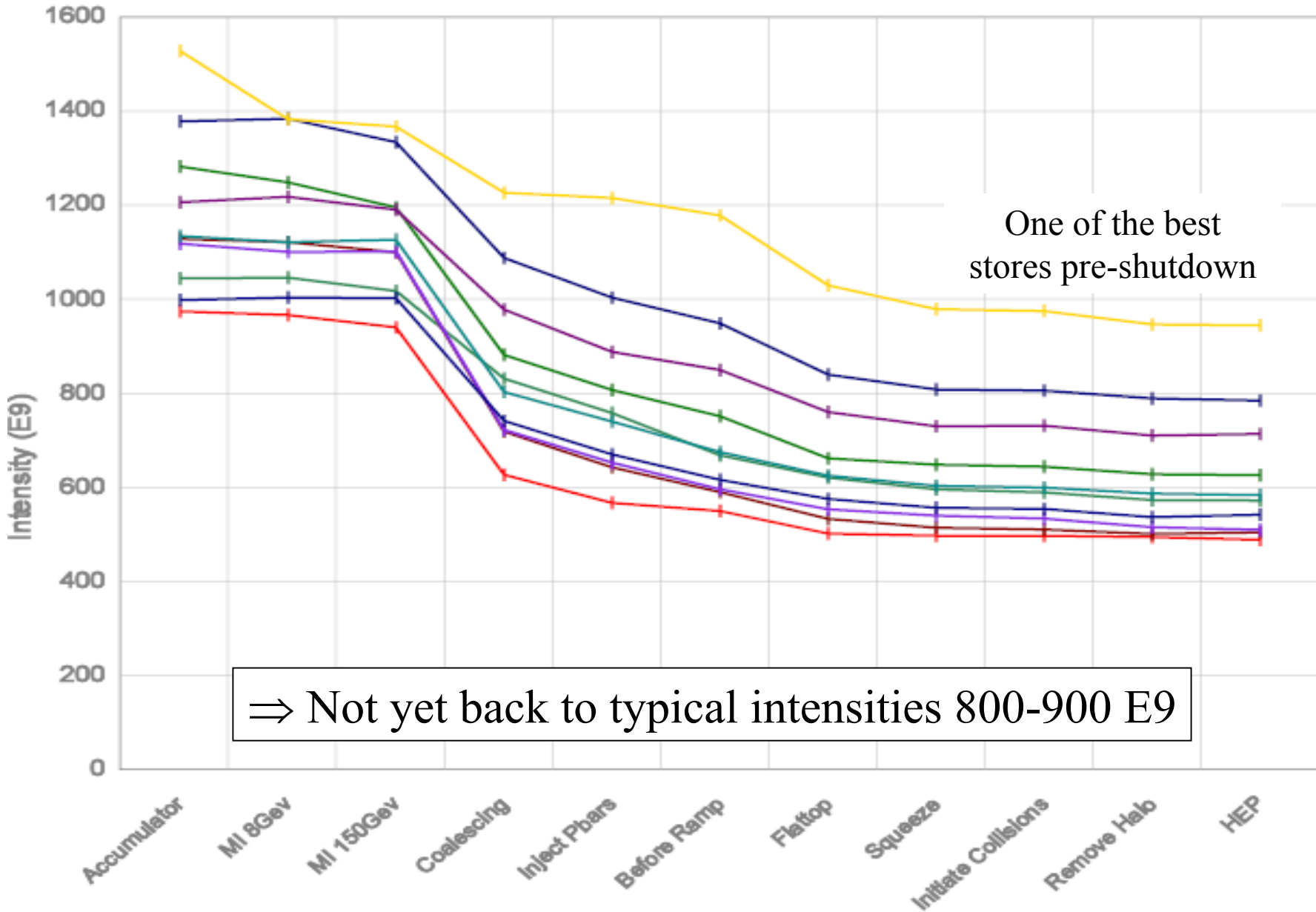
engineering units

MI DC beam E12  
Protons on pbar target E12



# Pbar Intensities

Shots # 2271 2270 2264 2262 2236 2234 2232 2231 2229 2015







# Failed Tev Dipole from C34



TD PRO ENG

2/19/2003 13:44






# This Week's Schedule

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- Shoot pbars to Recycler tonight (first since shutdown)
- CDF 2-4 shift access to repair COT starting Tuesday 06:00
- Pbar 1 shift access to repair
  - 4-8 GHz momentum pickups
  - sextupole water leak (replace magnet? – does not break vacuum)
- Tevatron 3-5 shifts of maintenance/studies
- Cryo to replace relays to prevent cold-compressor trips
- Pbar to address ARF4 misbehavior
- Shoot next HEP store Thursday evening
- Stack & store over weekend
- Resume fast pbar shots to Recycler after HEP store begins

# Weekly Schedule

Update 2/24/03 3:26 PM (3)	MONDAY 2/24/03	TUESDAY 2/25/03	WEDNESDAY 2/26/03	THURSDAY 2/27/03	FRIDAY 2/28/03	SATURDAY 3/01/03	SUNDAY 3/02/03
<b>Owls</b> 0000 to 0800		0530 <b>Terminate Store</b>  0600 CDF Access  0700 Pbar Access Booster Access  <u>ML/RR</u> - Store/Stash	<u>Tevatron</u> - CDF Access?  <u>Pbar</u> - ARF4 Studies - Stacking  <u>ML/RR</u> - Stacking/Studies	<u>Tevatron</u> - Coupling/Maint. - Studies  <u>Pbar</u> - Stacking	Stack, store and react as necessary		
<b>DAYS</b>  0800 to 1600	<b>NTF-PT</b>  <b>Shot Setup</b>  <b>Shot</b>  <b>Store</b>  <u>Pbar</u> - Wait/Stacking <u>ML/RR</u> - 1-2hr Access	<b>NTF - PT</b> P3 PS Tests need T Hall/F-Sector 4hrs TeV - A-E Access - 1200 F-Sector/T- Hall Access  <u>Pbar</u> - Access until 1300  <u>ML/RR</u> - Store/Stash	<u>Tevatron</u> - CDF Access? - Startup  <u>Pbar</u> - ARF4 Studies - Stacking  <u>ML/RR</u> - Stacking/Studies	<b>662x436</b> <u>Tevatron</u> - Proton Stability - Studies  <u>Pbar</u> - Stacking 140mA	Stack store and react as necessary		
<b>EVES</b>  1600 to 2400	<b>Store</b>  <u>Pbar</u> - Tunes Aperture - Stacking - RR Shots	<u>Tevatron</u> - CDF Access  <u>Pbar</u> - ARF4 Studies - Stacking  <u>ML/RR</u> - Stacking/Studies	<u>Tevatron</u> - Long. Dampers - Studies  <u>Pbar</u> - Stacking  <u>ML/RR</u> - Stacking/Studies	<b>Shot Setup</b>  <b>Shot</b>  <b>Store</b>	Stack store and react as necessary		

Schedule can be found at <http://www-bd.fnal.gov/operations/schedules.html>



# Summary

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- Delivered luminosity better than last week  $4.1 \text{ pb}^{-1}$ 
  - Tev proton intensity back to pre-shutdown levels
  - ARF4 cavity still degrading pbar coalescing, intensity in Tev
- Proton source continues to run very well
  - 4.9 E12 protons/pulse on target routinely
- Recycler getting first pbars since shutdown, ready for regular shots after HEP stores begin
- CDF 2-4 shift access to repair COT, 3-5 shifts Tev studies
- Next HEP store Thursday evening
- Stack and store through the weekend